Please notice that in this assignment we need to calculate the parameters in the linear equations through statistics and not through the mathematics [in Q1 & Q3].

Y= ax + b: here **a** and **b** must be calculated through statistical formaula and the steps must be shown. It is not accepted to just plot the data in Excel and fit a stright line to them to find these parameters. Statistically we should find **b & a**, then write down the equation. I need to see the steps and not just the answers.

Question 1 has 9 points attach to it. To have the full mark, you need to show how **b & a** are found statistically and show your steps. You can plot the data in Excel and fit a line to compare with your statistically found values for double checking, but your Excel answers are not what we are looking for in these 2 questions [Q1 & Q3].

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1. Mr. James McWhinney, president of Daniel-James Financial Services, believes there is a relationship between the number of client contacts and the dollar amount of sales. To document this assertion, Mr. McWhinney gathered the following sample information. The X column indicates the number of client contacts last month, and the Y column shows the value of sales ($ thousands) last month for each client sampled.



a. Determine the regression equation.

b. Determine the estimated sales if 40 contacts are made.

2. Refer to Exercise 1

a. Determine the standard error of estimate.

b. Suppose a large sample is selected (instead of just 10). About 95 percent of the predictions regarding sales would occur between what two values?

3. The following table lists the annual amounts of glass cullet produced by Kimble Glass Works, Inc.

Year Code Scrap (tons)

1999 1 2.00

2000 2 4.00

2001 3 3.00

2002 4 5.00

2003 5 6.00

Determine the least squares trend equation.

Estimate the amount of scrap for the year 2005

4. Victor Anderson, the owner of Anderson Belts, Inc., is studying absenteeism among his employees. His workforce is small, consisting of only five employees. For the last three years he recorded the following number of employee absences, in days, for each quarter.

QUARTER

Year I II III IV

2001 4 10 7 3

2002 5 12 9 4

2003 6 16 12 4

Determine a typical seasonal index for each of the four quarters.